

WHAT IS CLAIMED IS:

1. An active resonant snubber in parallel to a primary winding of a transformer of a DC-DC converter for resetting said transformer, comprising:

a resonant capacitor;

an active switch connected to said resonant capacitor in series;

an auxiliary diode coupled across said active switch in parallel; and

an auxiliary winding coupled with said transformer,

wherein when a main switch of said DC-DC converter is turned off, said auxiliary winding turns on said active switch, and then said transformer is reset by a resonance between a magnetizing inductor of said transformer and said resonant capacitor.

2. The active resonant snubber according to claim 1, wherein said auxiliary diode is a parasitic diode of said active switch.

3. The active resonant snubber according to claim 1, wherein said main switch has a parasitical capacitor.

4. An active resonant snubber in series to a primary winding of a transformer of a DC-DC converter and in parallel to a main switch of said DC-DC converter for resetting said transformer, comprising:

a resonant capacitor;

an active switch connected to said resonant capacitor in series;

an auxiliary diode coupled across said active switch in parallel; and

an auxiliary winding coupled with said transformer,

wherein when a main switch of said DC-DC converter is turned off, said auxiliary winding turns on said active switch, and then said transformer is reset by a resonance between a magnetizing inductor of said transformer and said resonant capacitor.

5. The active resonant snubber according to claim 4, wherein said auxiliary diode is a parasitic diode of said active switch.
6. The active resonant snubber according to claim 4, wherein said main switch has a parasitical capacitor.
7. An active resonant snubber in parallel to a secondary winding of a transformer of a DC-DC converter for resetting said transformer, comprising:
- a resonant capacitor;
  - an active switch connected to said resonant capacitor in series;
  - an auxiliary diode coupled across said active switch in parallel; and
  - an auxiliary winding coupled with said transformer,
- wherein when a main switch of said DC-DC converter is turned off, said auxiliary winding turns on said active switch, and then said transformer is reset by a resonance between a magnetizing inductor of said transformer and said resonant capacitor.
8. The active resonant snubber according to claim 7, wherein said auxiliary diode is a parasitic diode of said active switch.
9. The active resonant snubber according to claim 7, wherein said main switch has a parasitical capacitor.